SUBCOURSE
EN 5702

EDITION
C

US ARMY ENGINEER SCHOOL

SMALL-UNIT LEADERS' ENVIRONMENTAL-AWARENESS TRAINING

THE ARMY INSTITUTE FOR PROFESSIONAL DEVELOPMENT

ARMY CORRESPONDENCE COURSE PROGRAM

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Write: Use the **Student Administrative Inquiry Form** at the back of this subcourse. **Phone**: See the inside back cover of this subcourse.	**Write**: Use the **Student Subcourse Content Inquiry Form** at the back of this subcourse if you have inquiries about subcourse content. **Phone**: DSN: 676-6169 Commercial: (573) 563-6169

SMALL-UNIT LEADERS' ENVIRONMENTAL-AWARENESS TRAINING

Subcourse EN 5702

EDITION C

United States Army Engineer School
Fort Leonard Wood, Missouri 65473

10 Credit Hours

Edition Date: April 2002

SUBCOURSE OVERVIEW

This subcourse addresses the supervisor and serves as the first formal leadership element in the chain of command. As first-line supervisors, you will be expected to participate in training and operations activities at the squad, platoon, and company levels. Your responsibilities will place you in a position to implement, supervise, and execute small-unit missions that directly impact the environment. As a supervisor, you will make decisions that enforce environmental policy among your soldiers. At this level of responsibility, you must ensure that your actions, and the actions of your subordinates, comply with and support unit environmental policies.

You will be given Television Tape (TVT) 5-56 along with this subcourse.

There are no prerequisites for this subcourse.

This subcourse reflects the current doctrine when this subcourse was prepared. In your own work, always refer to the latest official publications.

Unless otherwise stated, the masculine gender of singular pronouns is used to refer to both men and women.

TERMINAL LEARNING OBJECTIVE:

This course will provide first-line supervisors with the ability to develop and implement unit and organizational programs in support of existing installation policies.

ACTION: After completing this lesson and viewing the video, you will be able to discuss United States (US) Army environmental-awareness initiatives as they pertain to individual soldiers and small-unit leaders.

CONDITION: You will be given this subcourse, TVT 5-56, and an Army Correspondence Course Program (ACCP) examination response sheet.

STANDARD: To demonstrate competency of this task, you must achieve a minimum of 70 percent on this subcourse.

TABLE OF CONTENTS

Student Inquiry Sheets

ADMINISTRATIVE INSTRUCTIONS

1. Number of lessons in this subcourse: Six.

2. Materials you need in addition to this booklet are a number (No.) 2 pencil, the ACCP examination response sheet TVT 5-56, and the preaddressed envelope you received with this subcourse.

3. Supervisory requirements: None.

4. The following publications provide additional information about the material in this subcourse. You do not need these materials to complete this subcourse.

- Army Regulation (AR) 200-1. *Environmental Protection and Enhancement*. 21 February 1997.
- AR 200-2. *Environmental Effects of Army Actions*. 23 December 1988.
- AR 200-3. *National Resources—Land, Forest, and Wildlife Management*. 28 February 1995.
- AR 200-4. *Cultural Resources Management*. 1 October 1998.
- AR 200-5. *Pest Management*. 29 October 1999.
- FM 1 (formally FM 100-1). *The Army*. 14 June 2001.
- FM 101-5-1. *Operational Terms and Graphics*. 30 September 1997.
- FM 100-14. *Risk Management*. 23 April 1998.
- FM 3-100.4. *Environmental Considerations in Military Operations*. 15 June 2000.
- FM 101-5. *Staff Organization and Operations*. 31 May 1997. (Note: When revised, FM 5.0 will be retitled *Army Planning and Orders Production.*)
- FM 22-100. *Army Leadership*. 31 August 1999.
- FM 7-10. *The Infantry Rifle Company*. 14 December 1990.
- FM 25-101. *Battle-Focused Training*. 30 September 1990.
- FM 4-04.4. *Environmental Considerations in Military Operations*. 15 June 2000
- Training Circular (TC) 3-34.489. The *Soldier and the Environment*. 8 May 2001.
- Training Support Package (TSP) 052-250-1000. *Environmental Awareness*. June 2001.
- TSP 052-250-1001. *Comply with Host-Nation, Federal, State, and Local Environmental Laws and Regulations*. June 2001.

- TVT 5-56. *Operation Stewardship-The Soldier and the Environment*. 20 August 1993.
- *US Army Environmental Strategy Into the 21st Century*.

GRADING AND CERTIFICATION INSTRUCTIONS

Examination: This subcourse contains a multiple-choice examination covering the material in the six lessons. After studying the lessons and working through the practice exercises, complete the examination. Mark your answers in the subcourse booklet, and then transfer them to the ACCP examination response sheet. Completely blacken out the lettered oval that corresponds to your selection (A, B, C, or D). Use a number 2 pencil to mark your responses. When you complete the ACCP examination response sheet, mail it in the preaddressed envelope you received with the subcourse. You will receive an examination score in the mail. You will receive ten credit hours for successful completion of this examination.

LESSON 1

THE ARMY STRATEGY

OVERVIEW

LESSON DESCRIPTION:

This lesson discusses the US Army's environmental position as it relates to training and operations and explains the four environmental pillars.

TERMINAL LEARNING OBJECTIVE:

ACTION:	You will identify the Army's environmental position as it relates to Army training and operations.
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment without any supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from AR 200-1, FM 4-04.4 (3-100.4), TC 3-34.489, FM 1-02, FM 1 (100-1), FM 6-22, and TVT 5-56.

INTRODUCTION

The US military's primary mission is to defend the US—its people, its land, and its heritage. National security strategy now includes specific environmental-security concerns. The American people expect the US Army to manage the financial, human, and natural resources entrusted to it in a responsible manner. The policy and vision of the Army on these issues, as well as your responsibilities as leaders, are critical to understanding how to address military environmental protection. On 19 November 1992, Secretary of the Army, Michael P. Stone, and Army Chief of Staff, General Gordon R. Sullivan, formally signed the US Army Environmental Strategy Into the 21st Century. This comprehensive document demonstrates the Army's commitment to meet present and future challenges. The strategy calls on the Army community and other functional areas to fully recognize the link between mission accomplishment and environmental stewardship. This strategy ensures that the environment and environmental stewardship are integral parts of every facet of the Army mission. If the Army's strategy is to succeed, every soldier, leader, and civilian in the force must understand and support the US Army environmental-quality goals.

1-1. Background. Strategic factors influencing international security and stability have dramatically changed. Global population and industrial activity have grown exponentially, and technological advancement has accelerated. These events have shaken the foundations of strategic analysis,

fundamentally altering the relationship between the human population and the supporting natural resources. FM 1-02 (101-5-1) defines the natural environment as "the human ecosystem, including both the physical and biological systems that provide resources (clean air, clean water, healthy surroundings, sufficient food) necessary to sustain productive human life. Included in the natural environment are manmade structures, such as water and wastewater treatment facilities and natural or cultural resources."

1-2. Environmental Conflict. Conflict caused or aggravated by resource scarcity is not new. What was once a local or regional problem may now extend globally. Resource scarcity could reduce the ability of governments to respond to the basic needs of their people. Access to sufficient energy supplies is of vital national interest to an industrialized nation. The resulting instability can threaten regional security and lead to armed interventions.

a. Frequently, strategic resources (minerals, oil, or coal) have been catalysts of conflict, possessing strategic significance. The widespread distribution and product substitution associated with a global economy tend to mitigate scarcity. Renewable or "sustainable" resources, such as clean air, water, cropland, or forests, are more difficult to replace and can create regional instability.

b. Environmental resource scarcity, caused by degradation or depletion of renewable resources, encourages groups to capture these resources or to migrate to find adequate resources. Environmental resources can contribute to the potential for conflict when they become environmental threats or strategic goals.

1-3. Environmental Threats. Environmental threats intensify regional instability. Threats to stability and security might result from acts of war or terrorism (the destruction of infrastructure facilities providing water or fuel). The threats (polluting the rivers or air that flows into another country) may also result from the routine activities of an industrial society. Security from these environmental threats include protective measures for natural resources; safety measures for soldiers whether at their home station or deployed; and offensive, defensive, and support actions when required to meet national security goals. Environmental threats will confront theater commanders in the form of natural resource issues as strategic and operational factors before, during, and after future conflicts.

1-4. Environmental Protection as a National Ethos.

a. As outlined in FM 1 (100-1), the nation's ethos translates into national policy, national-security strategy, and military strategy. The US has often been the first nation to search for solutions to environmental problems. As environmental protection becomes increasingly important, it assumes a growing significance to operational readiness. US military forces must maximize environmental compliance and restoration efficiency to preserve funds for force structure, modernization, and training.

b. Operational readiness requires sufficient land for training individuals and units. The Army manages large training and testing areas, which are increasingly valuable as part of a diminishing inventory of undeveloped land. Often, the health of the surrounding natural ecosystem also depends on the natural habitat of these training or testing areas. Good conservation techniques preserve training areas for future military use and reduce compliance and restoration costs.

1-5. Environmental Vision. Caring for the environment begins with the Army's vision of environmental responsibility. The following vision statement from the *US Army Environmental Strategy Into the 21st Century* describes what the Army expects of soldiers:

"The Army will integrate environmental values into its mission in order to sustain readiness, improve the soldier's quality of life, strengthen community relationships, and provide sound stewardship of resources."

1-6. Environmental Ethic. FM 6-22 (22-100) defines ethics as principles or standards that guide soldiers and professionals to do the moral or right thing. The environmental ethic is defined as follows:

"We will take care of the environment because it is the right thing to do."

The Army's environmental ethic is the operating principle and value governing soldiers, units, and the entire Army. Damage to land, water, and air are reduced by considering the effects of training, operations, and logistical activities on the environment and by managing hazardous material and waste properly. Doing what is best for the environment helps ensure that space will be available to conduct future training. Stewardship is the key element in the Army's environmental ethic. The Army is charged with protecting and defending the nation and its people, which includes safeguarding the environment. The Army is entrusted with more than 12 million acres (almost 19,000 square miles) of federal land. The American people expect the Army to use and manage these resources wisely. The Army's leaders, from squad leader to company commander, serve as basic environmental stewards. Serving in these positions, you have a professional responsibility to understand and support the Army's environmental program.

1-7. Strategy. Based on the vision and the ethic, the Army seeks to conduct operations that are environmentally sustainable, enhance the quality of life, and improve national security. The Army's strategy is to–

- Comply with all environmental laws and regulations.
- Prevent pollution at the source by reducing, reusing, or recycling materials that cause pollution.
- Conserve and preserve natural and cultural resources so that they will be available for present and future generations.
- Restore contaminated sites as quickly as possible.

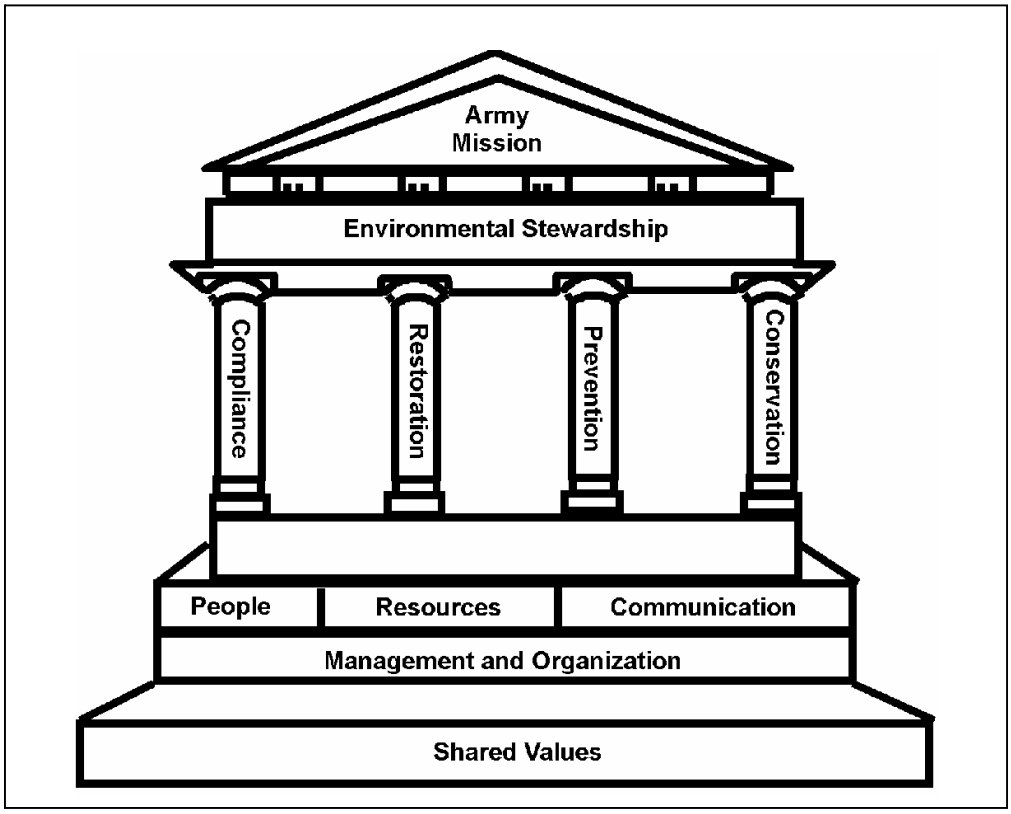

Figure 1-1. Army's Environmental Strategy Model

The Army's environmental strategy model, Figure 1-1, illustrates the Army's environmental strategy. This strategy is founded on the bedrock of shared national values that fortify the Army and the nation. The key building blocks—people, resources, communication, management, and organization—provide the foundation for all Army activities, including environmental stewardship. These building blocks support the Army's tradition of leadership. Strong commitment to each part of the foundation is critical to ensure a solid base for environmental initiatives and long-term success. Army leadership, coupled with the building blocks, provides a sound footing for the four pillars of compliance, restoration, prevention, and conservation. These pillars represent parts of the environment that must work together. The environmental model shows how these four pillars support environmental stewardship. The Army mission, located at the top, requires the Army to manage and use natural resources wisely. Just as a building's walls support its roof, the model's four pillars support environmental stewardship. Environmental stewardship, in turn, supports the Army mission.

a. Compliance. The essence of compliance is obeying the law. Compliance includes all activities that ensure operations and activities meet federal, state, local, and applicable host nation (HN) environmental requirements. These requirements include laws and regulations for wastewater discharge, noise abatement, air quality attainment, solid waste, and hazardous-waste (HW) management.

b. Restoration. Restoration includes all activities necessary to clean up contaminated military sites. Most military units do not perform restoration; normally environmental staffs and contractors perform this function. However, to make installations safer and healthier places for soldiers and their families, the military services are now cleaning up contaminated sites. By following the principles of the other three environmental strategies, soldiers help minimize the need for restoration.

c. Prevention. Prevention is the Army's attempt to reduce or eliminate pollution. Preventing pollution is always more effective and less costly than cleaning up polluted sites. Pollution prevention includes all phases of the material management life cycle, from concept development to final disposition. Soldiers can support prevention efforts by—

- **Reducing the Amount of Waste Produced**. This may include using smaller amounts of toxic materials or replacing them with less toxic substitutes, or it may include changing operating methods by increasing efficiency or preventing accidents that generate waste and residue.

- **Reusing Materials Whenever Possible**. Reusing items is more cost-effective than recycling. Reuse entails using an item in its current form. Refilling containers, filtering solvents, or reusing subassemblies reduces the amount of waste that must be treated and disposed.

- **Recycling Products**. This entails changing the physical composition of the item by melting it down or shredding it for use in other processes. Recycling, while less efficient than reuse, may be the only alternative for several types of waste. Many installations sponsor recycling programs to support morale, welfare, and recreation activities.

d. Conservation. Conservation includes two types of resource management: controlled use and preservation. Controlled use focuses on managing military land to ensure long-term natural resource productivity. Preservation focuses on protecting natural and cultural resources (to include endangered species) by maintaining them in their current state. Renewable resources, such as timber or training land, require controlled use. Nonrenewable resources, such as historic monuments or endangered species, require preservation. The military must balance these demands in a responsible effort to conserve natural resources and maintain readiness.

1-8. Stewardship. Along with the Army training on a vast amount of acreage, comes the responsibility of stewardship—safeguarding and enhancing our vital resources. The Army must guarantee the continuing usefulness of land by protecting the environment from the effects of current and future training operations. This is achieved in part by using the goals and objectives identified in the four pillars. Individuals, from the commander-in-chief to the newest recruit and every civilian employee, must apply stewardship to their area of responsibility.

1-9. Summary. National-security strategy now includes specific environmental-security concerns. Environmental resources can and do contribute to the potential for conflict when they become environmental threats or strategic goals. The American people expect the Army to manage entrusted financial, human, and natural resources in a responsible manner. The Army is integrating environmental considerations into its approach to war fighting. This ensures that, as the Army fights and wins future conflicts, it will protect and preserve valuable resources (soldiers and materials) and the natural environment.

LESSON 1

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you complete the exercise, check your answer with the key that follows. If you answered any item incorrectly, review the part of the text that contains the portion involved.

1. What is the US Army's environmental vision?

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2. Name and describe the four environmental pillars.

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3. Why is access to energy supplies so important?

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4. Name two strategic environmental resources.

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5. What is the Army's environmental strategy?

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LESSON 1

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	Caring for the environment begins with the Army's vision of environmental responsibility. The *US Army Environmental Strategy Into the 21st Century* describes what the Army expects of soldiers: *"The Army will integrate environmental values into its mission in order to sustain readiness, improve the soldier's quality of life, strengthen community relationships, and provide sound stewardship of resources."* (page 1-3, paragraph 1-5)
2.	Compliance. Obey local, state, federal, and HN environmental requirements. Restoration. Includes all activities necessary to clean up contaminated sites. Most military units do not perform restoration; normally environmental staffs and contractors perform this function. Prevention. The Army's attempt to reduce or eliminate pollution. Soldiers do this by reducing, reusing, and recycling. Conservation. Includes two types of resource management; controlled use and preservation. Controlled use focuses on managing military land and preservation as well as protecting natural and cultural resources. (page 1-4, paragraph 1-7 (a-d))
3.	Resource scarcity could reduce the ability of governments to respond to the basic needs of their people. Access to sufficient energy supplies is of vital national interest to a nation when it becomes industrialized. The resulting instability can threaten regional security and lead to armed interventions. (page 1-2, paragraph 1-2)
4.	Strategic resources include: mineral, oil, or coal, (air, water, croplands, and forests). (page 1-2, paragraph 1-2)
5.	The Army's strategy is to— • Comply with all environmental laws and regulations. • Prevent pollution at the source by reducing, reusing, or recycling materials that cause pollution. • Conserve and preserve natural and cultural resources so they will be available for present and future generations. • Restore contaminated sites as quickly as possible. (page 1-3, paragraph 1-7)

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LESSON 2

RESPONSIBILITIES

OVERVIEW

LESSON DESCRIPTION:

This lesson discusses the environmental leadership responsibilities required to accomplish the mission within a unit.

TERMINAL LEARNING OBJECTIVE:

ACTION:	You will describe the basic environmental management responsibilities that apply to your work areas and assigned duties.
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment with no supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from AR 200-1, AR 200-2, FM 5-0 (101-5), TC 3-34.489, and TVT 5-56.

INTRODUCTION

Commanders, staffs, subordinate leaders, and soldiers must become environmental stewards by understanding their individual duties and responsibilities for environmental protection. To practice stewardship, US military personnel and Department of the Army (DA) civilians must understand the basic environmental management responsibilities that apply to their work area or assigned duties.

2-1. Unit Responsibilities. Installation regulations or operational directives, such as operation plans (OPLANs), operation orders (OPORDs) or contingency plans (CONPLANs) generally define a unit's environmental program. Standing operating procedures (SOPs) usually establish a unit's environmental installation and operational requirements into daily routines. Unit-level environmental management always includes guidance for commanders, staffs, subordinate leaders, and soldiers.

a. Commanders. Commanders' role in environmental stewardship centers on instilling an environmental ethic in soldiers and civilians under their control. Commanders train their subordinate leaders on stewardship, counsel them on doing what is right, lead by example, and enforce compliance with laws and regulations.

b. Unit Staffs. Unit staffs have inherent responsibilities within their areas of expertise that require environmental actions. While addressing environmental issues may depend on the command or commander, staffs incorporate environmental concerns into unit SOPs and outline the responsibilities of the units Army environmental compliance officer (ECO). The unit staff also integrates environmental considerations into the planning and execution processes, particularly in their areas of expertise. Common staff duties provide the basis for some environmental responsibilities, while FM 5-0 (101-5) provides a basis for others.

c. Environmental Compliance Officer (ECO). The key proponent who fulfills environmental requirements successfully at the unit level is the ECO. AR 200-1 directs all Army unit commanders to "appoint and train ECOs at appropriate levels to ensure that compliance actions take place."

(1) The ECO manages environmental issues at the unit level and ensures environmental compliance. The ECO also coordinates through the respective chain of command with the supporting installation environmental staff to clarify requirements and obtain assistance.

(2) The ECO accomplishes environmental compliance requirements on behalf of the commander. While the ECO does not hold a formal staff position, the ECO is critical to the commander's environmental program. The ECO—

- Advises the unit on environmental compliance during training, operations, and logistics functions.
- Serves as the commander's eyes and ears for environmental matters.
- Manages information concerning the unit's environmental training and certification requirements.
- Performs unit environmental self-assessment inspections.
- Performs environmental-risk assessments.

d. Subordinate Leaders. All leaders must build an environmental ethic in their soldiers by training and counseling subordinates on environmental stewardship, leading by example, and enforcing compliance with laws and regulations. Leaders—

- Communicate the Army environmental ethic to soldiers, while training them to be good environmental stewards.
- Develop and sustain a positive and proactive commitment to environmental protection.
- Identify environmental risks associated with individual, collective, and mission-essential task list (METL) task performance.
- Plan and conduct environmentally sustainable actions and training.
- Protect the environment during training and other activities.
- Analyze the influence of environmental factors on mission accomplishment.

- Integrate environmental considerations into unit activities.
- Train peers and subordinates to identify the environmental effects of plans, actions, and missions.
- Counsel soldiers on the importance of protecting the environment and the possible consequences of not complying with environmental laws and regulations.
- Ensure that soldiers are familiar with the unit SOPs, and supervise their compliance with laws and regulations.
- Incorporate environmental considerations into after-action reports (AARs).
- Understand the link between environmental considerations and their associated impact on safety, force protection, and force health protection.

e. Soldiers. Soldiers have the inherent professional and personal responsibility to understand and support their service's environmental program. They—

- Comply with environmental requirements in unit and installation SOPs.
- Maintain environmental awareness throughout daily activities.
- Provide recommendations to the chain of command on techniques to ensure compliance with environmental regulations.
- Identify the environmental risks associated with individual and team tasks.
- Support recycling programs.
- Report hazardous-material (HM) and HW spills immediately.
- Make sound environmental decisions based on guidance from the chain of command, training, and personal concepts of right and wrong.

2-2. Summary. Compliance with environmental laws and regulations is critical to the future availability of environmental and training resources. The Army must comply with all environmental laws, regulations, and policies and commanders' guidance applying to installations. Considering the environmental effects of training, operations, and logistics activities reduces environmental damage and costs. Commanders, staffs, subordinate leaders, and soldiers must understand their individual duties and responsibilities for environmental protection and become environmental stewards. They must also understand the links between environmental considerations and their impact on safety, force protection, and force health protection.

LESSON 2

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you complete the exercise, check your answer with the key that follows. If you answered any item incorrectly, review the part of the text that contains the portion involved.

1. Describe what an ECO does.

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2. How can subordinates incorporate environmental-awareness training into their unit?

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3. Who has a responsibility to protect the environment?

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4. Name three ways in which soldiers can understand and support their units' environmental program.

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5. What is the commanders' role in environmental stewardship?

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LESSON 2

PRACTICAL EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	An ECO manages environmental issues at the unit level and ensures environmental compliance. The ECO also does the following: • Advises the unit on environmental compliance during training, operations, and logistics functions. • Serves as the commander's eyes and ears for environmental matters. • Manages information concerning the unit's environmental training and certification requirements. • Performs unit environmental self-assessment inspections. • Performs environmental-risk assessments. (page 2-2, paragraph 2-1c(1-2))
2.	Subordinate leaders incorporate environmental awareness training into their unit by: • Communicate the Army environmental ethic to soldiers while training them to be good environmental stewards. • Develop and sustain a positive and proactive commitment to environmental protection. • Identify environmental risks associated with individual, collective and METL task performance. • Plan and conduct environmentally sustainable actions and training. • Protect the environment during training and other activities. • Analyze the influence of environmental factors on mission accomplishment. • Integrate environmental considerations into unit activities. • Train peers and subordinates to identify the environmental effects of plans, actions, and missions. • Counsel soldiers on the importance of protecting the environment and the possible consequences of not complying with environmental laws and regulations. • Ensure that soldiers are familiar with the unit SOPs, and supervise their compliance with laws and regulations. • Incorporate environmental considerations into AARs.

- Understand the link between environmental considerations and their associated impact on safety, force protection, and force health protection.
  (page 2-2, paragraph 2-1d(1-12))

3. An SOP usually establishes a unit's environmental installation and operational requirements into daily routines.
   (page 2-1, paragraph 2-1)

4. To support their unit environmental program, soldiers can:

   - Comply with environmental requirements in unit and installation SOPs.
   - Maintain environmental awareness throughout daily activities.
   - Provide recommendations to the chain of command on techniques to ensure compliance with environmental regulatory requirements.
   - Identify the environmental risks associated with individual and team tasks.
   - Support recycling programs.
   - Report HM and HW spills immediately.
   - Make sound environmental decisions based on guidance from the chain of command, training, and personal concepts of right and wrong.
     (page 2-3, paragraph 2-1e(1-7))

5. The commander instills an environmental ethic in soldiers and civilians under their control.
   (page 2-1, paragraph 2-1a)

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LESSON 3

ENVIRONMENTAL LAWS AND REGULATIONS

OVERVIEW

LESSON DESCRIPTION:

This lesson discusses the laws and regulations that impact Army training and operations. It also discusses the fines and penalties that can be imposed on Army soldiers and civilians.

TERMINAL LEARNING OBJECTIVE:

ACTION:	You will identify environmental laws and regulations required to perform your mission to minimize harm to the natural environment.
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment with no supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from AR 200-1, AR 200-2, FM 4-04.4, TC 3-34.489, and TVT 5-56.

INTRODUCTION

Environmental issues are a major concern of the Army. With new laws and regulations, these issues continue to have a growing impact on Army operations. Violations of federal, state, or local environmental laws can result in both civil and criminal penalties. Soldiers and leaders must understand the laws and know what actions to take. They must also ensure that unit personnel are trained properly and meet all requirements. The environmental laws and regulations in this section are not all inclusive, but they represent those that are most applicable to soldiers. For further information about these and other laws, ask the chain of command, the installation staff judge advocate, or the environmental office.

3-1. Environmental Laws. There are four primary sources of environmental law: federal, state, local, and HN. These four governments have established laws and regulations to protect civilian and military communities and the natural and cultural environments from degradation. Heightened environmental awareness by the public and federal government has led agencies to develop policies to support regulatory compliance and stewardship.

3-2. Federal Law. Federal laws are enacted by Congress and enforced by federal agencies like the Environmental Protection Agency (EPA), the Department of Transportation (DOT), and the Army. Once an agency determines how to enforce the laws, it develops regulations. In this way, Army environmental

regulations are based on federal laws. Soldiers should understand the following federal environmental laws, which affect many of the activities they perform each day.

a. National Environmental Policy Act (NEPA). The NEPA requires the Army to determine the environmental impact of proposed actions. If a proposed action will harm the environment, the Army must develop a plan to eliminate or minimize the damage. Soldiers comply with the NEPA by:

(1) Considering the environmental consequences of their actions.

(2) Following environmental guidelines set forth in unit SOPs, installation regulations and mission orders.

b. Resource Conservation and Recovery Act (RCRA). The RCRA governs how the Army identifies, transports, stores, and disposes of HM and HW. The RCRA places "cradle-to-grave" responsibility for HW on the personnel or units generating the waste. It also governs the recycling and reusing of nonhazardous material and waste. Used munitions can become a regulated HW in some cases. Soldiers comply with RCRA by—

- Supporting the installation recycling program.
- Removing materials (expended brass, communications wire, concertina, booby traps, unused munitions, and propellant charges) from training sites.
- Conducting police calls to collect and dispose of solid waste.
- Collecting and turning in HW and HM according to unit SOPs.
- Knowing what HM they use on the job or at home.
- Knowing what HW they produce as they perform their jobs.

c. Clean Water Act (CWA). The CWA applies to facilities that place pollutants into bodies of water. The CWA affects groundwater, storm water, surface water (lakes, rivers, and streams), marshes, swamps, wetlands, coastlines, and navigable waterways (canals). Soldiers comply with the CWA by—

- Disposing of chemicals, solvents, and HW properly. Never disposing of HW in storm drains, sinks, toilets, or drains.
- Washing vehicles in approved wash racks only.
- Cleaning up spills in the work area immediately.
- Reporting spills through the chain of command.

d. Clean Air Act (CAA). The CAA requires the Army to prevent, control and/or reduce air pollution from nontactical vehicles, facilities, and operations. Soldiers comply with the CAA by—

- Checking with the local environmental office before using gas or smoke.
- Meeting state inspection standards for privately owned vehicles (POVs).

- Observing local fire and burning restrictions.
- Following local dust control guidelines on tank trails and range roads.
- Keeping solvent vats closed when not in use.
- Using paints and thinners correctly and with proper equipment (paint application techniques and paint booths).
- Maintaining and operating equipment (engines, boilers, and generators) properly to reduce air pollution problems.
- Ensuring that air conditioning systems in POVs and government vehicles are serviced only by individuals who are properly trained and certified.

e. National Historic Preservation Act (NHPA). The NHPA safeguards against the loss of irreplaceable historical, archaeological, and cultural properties. The NHPA requires Army installations to identify and safeguard possible archaeological and historical sites, artifacts, and structures. It also requires the Army to protect and preserve the historical sites located on its installations. Soldiers comply with the NHPA by—

- Leaving historical and prehistorical artifacts and sites undisturbed.
- Reporting the discovery of artifacts and sites to the chain of command.
- Reporting vandalism, theft, and damage to historical, cultural, and archaeological sites.
- Planning and conducting training, operations, and logistics activities to avoid damaging historical and archaeological sites.

f. Endangered Species Act (ESA). The ESA protects threatened and endangered plants and animals. Army installations often include natural areas that are the last remaining refuge for endangered plants and animals. Almost every military training area has some endangered species. Soldiers comply with the ESA by—

- Recognizing signs and markers that indicate protected habitat areas.
- Avoiding marked-off habitat areas during training and operations.
- Following installation regulations for hunting, fishing, and camping.
- Obeying range control guidelines for cutting brush and trees for camouflage.

g. Federal Facilities Compliance Act (FFCA). The FFCA allows the EPA and states to inspect and fine Army installations that violate environmental laws identified in the RCRA. The FFCA also allows federal, state, and local environmental agencies to prosecute soldiers who knowingly violate environmental laws during the performance of their duties. Soldiers comply with the FFCA by—

- Cooperating with environmental inspectors.

- Performing self-assessments of their work area to ensure that they are complying with environmental guidelines.

- Informing their chain of command when they discover environmental problems.

h. Noise Control Act (NCA). The NCA promotes an environment free from noise that jeopardizes health or welfare. The Army should comply with all federal, state, and local requirements, respecting the control of noise unless doing so conflicts with the military mission. Soldiers comply with the NCA by—

- Avoiding unnecessary noise.

- Respecting noise buffer zones, minimum flight altitudes, no-fly zones, and nighttime curfews designated by the installation.

3-3. State Law. Each state has its own regulatory organization charged with developing and implementing environmental regulations. Most federal statutes allow states to set standards that are at least as stringent as federal requirements. When the EPA approves a state's program, the state has primary responsibility and authority for that particular program. Some state governments have additional environmental laws. Actions allowed by the environmental laws of one state may be illegal in another state. The installation environmental coordinator knows the state laws that apply to the installation. Soldiers must comply with federal, state, local, and applicable HN regulations.

3-4. Local Law. Local laws and ordinances address the concerns of the local communities. Generally, local laws will be based on federal and state laws. However, each municipality or community may place more stringent restrictions on certain activities. Noise restrictions during certain hours of the day are very common. It is highly unlikely that local environmental ordinances will extend to military installations, since most installations are not within municipal boundaries. However, the potential for conflict exists when installations are located close to cities and towns.

3-5. Host Nation Law. Many of the countries to which soldiers might deploy also have different environmental requirements. Army units in foreign countries must follow the environmental guidelines of the HN. When units deploy to other states or countries, leaders should inform them of changes in environmental requirements. Status of Forces Agreements (SOFAs) that permit or require standards other than those of the host country, are considered part of the environmental-pollution-abatement standards. These agreements apply to the Army in the host country or its jurisdiction. Apply AR 200-1 (with specific references to paragraph 1-24) and apply AR 200-2 to fulfilling outside the continental United States (OCONUS) environmental-protection requirements.

3-6. Environmental Penalties. Federal and state environmental-regulatory agencies can impose penalties on the Army for violating environmental laws. These penalties include fines, increased monitoring and intervention by environmental regulators, and damage awards from lawsuits.

a. Soldiers should be aware of and understand environmental laws to ensure that the installation or individuals on the installation do not incur any penalties. The local judge advocate general (JAG) office is best equipped to advise soldiers on exactly what must be done in a given situation to comply with the law. However, a basic understanding of legal principles will assist soldiers in making good decisions and in working with legal counsel, should the need arise.

b. Soldiers who violate environmental laws or allow others to do so can be prosecuted by military authorities under the Uniform Code of Military Justice (UCMJ) or in federal district court. If convicted of environmental violations, soldiers can receive fines up to $50,000 per day or imprisonment for up to two years.

c. There are two ways to violate environmental laws and regulations—through negligence and through purposeful acts. Violations can subject military installations to fines and civil suits. Personnel should consult the local JAG office for the latest changes or interpretations to laws and regulations. Violations of environmental laws, whether intentional or not, are treated the same by regulators and inspectors. Unintentional violations due to negligence can be prevented through training and education. Purposeful violations must be prevented by the chain of command and individuals' moral sense.

(1) Negligence. These are careless, delinquent actions, and commanders, leaders, or supervisors should know about them. Supervisors are responsible for ensuring that soldiers perform their duties correctly. Therefore, if soldiers are negligent or careless, a supervisor is guilty of negligence even if unaware of the act. For example, assume the chain of command failed to ensure that all concertina or communications wire was collected and stored following a field exercise. The chain of command is responsible for damage or injury to personnel or wildlife that becomes entangled in or injured by the wire. Failing to ensure that HM, such as solvents, are stored and accounted for properly is another example. The chain of command is responsible if the containers leak and contaminate soil, groundwater, or nearby streams.

(2) Purposeful Acts. These environmentally damaging actions are deliberately directed or performed by a commander, leader, or supervisor who has full knowledge of the action's illegality. If someone deliberately performs or directs an action knowing that it is illegal, that individual is culpable. For example, if a supervisor directs a soldier to dispose of used parts in a pond located in a secluded part of the post, the supervisor has deliberately broken the law. Claiming ignorance is no excuse. Common sense dictates that this action was improper and reflected poor judgment on the part of the supervisor. The petroleum, oils, and lubricants (POL) and the corrosion from the parts will contaminate the pond and eliminate its value as a source of drinking water, habitat, and recreation. The chain of command should prevent intentional violations to every extent possible.

d. Environmental legislation may contain procedural or substantive requirements or both.

(1) Procedural requirements describe a procedure or method that must be followed to achieve a specified goal or policy. The NEPA, for instance, specifically requires that federal decision makers follow certain procedures to document their consideration of environmental effects of actions. If a procedural requirement is violated, the penalty may be an order to halt the proposed action or project until the prescribed procedure has been followed to the satisfaction of the court. There is no direct fine or prison term imposed; however, there may be an indirect monetary cost associated with delays to the project and efforts to quickly comply with the procedural requirement.

(2) Substantive requirements define rights and restrictions. A typical substantive requirement would be limiting allowable discharges of air or water pollutants under the terms of a permit. For example, the permit required under the CWA for discharging pollutants into surface waters limits the quantities of various pollutants in water on a daily, monthly, or annual basis.

(3) If a military installation is found guilty of violating a substantive requirement, the installation may be fined or issued a directive from the regulatory agency to halt the polluting action immediately. If a knowing and willful violation of any criminal prohibition within the law can be proven, larger fines and permanent shutdown can be imposed. If an individual commits such a criminal violation, a personal fine and/or prison sentence can be imposed, just as with any other type of criminal case.

(4) Several military installations have received fines or stop-action directives for substantive violations, primarily from state authorities. Such directives were levied, by name, to the individual who signed the permit (usually the installation commander). Fines were normally paid from

the installation's operating budget. An installation can sometimes negotiate for reduced fines after the regulator, based on corrective action taken or scheduled, first proposes them.

(5) The government has imposed career penalties upon its military and civilian employees for causing violations against an installation. Some federal employees have received criminal indictments for violating environmental laws.

(6) Regulatory authorities are becoming more aware of their authority and more familiar with how to use the laws and courts to enforce environmental laws. Most will not hesitate to use their authority with regard to military installations. However, they will allow an installation a reasonable amount of time to comply with substantive requirements, if convinced that the installation is making a good faith effort. Similarly, command emphasis is necessary to ensure that such a good faith effort actually occurs.

e. Lawsuits Against the Military. The legal doctrine of sovereign immunity states that the government can be sued only with its own consent. This doctrine has its foundation in the English common law idea, which states that a king cannot break a law, since he is the lawmaker in the first place.

(1) Recent court decisions have noted significant exceptions to this doctrine. Environmental suits may be brought against a government official, alleging that he or she has acted as an individual and not in an official capacity, or alleging that the official has exceeded statutory authority.

(2) Most environmental laws have clauses that specifically waive certain sovereign-immunity privileges. Generally, federal organizations are subject to whatever agency has the permit management and enforcement authority for a particular environmental law in that organization's geographical area. For instance, under the CWA, the individual states are allowed to issue and monitor permits for the discharge of pollutants into surface waters (the EPA has relinquished this authority to the states). A military installation must obtain the necessary permits from the state, submit reports to the state, and comply with all state-imposed effluent limitations.

(3) States may impose sanctions, such as fines, against federal polluters only to the extent that Congress allows. States can fine federal agencies for air permit and HW violations.

f. Citizen Suits. Traditionally, if a citizen wanted to sue the government or one of its officers, a case or controversy had to exist, and that person had to have a personal stake in the outcome. This is usually because he or she was injured or could show economic damages. However, the courts have recently determined that a person's interest or stake in the outcome could be aesthetic, conservational, or recreational. Additionally, most environmental laws authorize citizens to sue the US or any other violator of these acts. To exercise this right, the citizen must provide a 60-day notice to the alleged polluter, the EPA, and the state. The citizen's cost of litigation can be reimbursed if the court upholds the allegation.

3-7. Summary. Army environmental regulations are based on federal laws. State and local environmental laws apply to the area in which soldiers live and work. In a foreign country, HN laws also apply. The Army will obey all environmental laws that apply to its installations, and the Army expects soldiers to do the same.

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LESSON 3

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answer with the answer key that follows. If you answer any item incorrectly, review the part of the text that contains the portion involved.

1. What are the four primary sources of environmental laws?

2. What are the two ways in which military members can violate environmental laws?

3. Name two federal acts that protect the environment.

4. Which federal law covers the preservation of historical sites and structures?

5. What act allows regulatory agencies to impose civil fines on other federal agencies, such as DA?

LESSON 3

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	Federal, state, local, and HN. (page 3-1, paragraph 3-1)
2.	Through negligence and through purposeful acts. (page 3-5, paragraph 3-6c)
3.	The following is a list of a few federal acts: • NEPA. • RCRA. • CWA. • CAA. • NHPA. • ESA. • FFCA. • NCA. (page 3-2, paragraph 3-2a through h)
4.	The NHPA safeguards against the loss of irreplaceable historical, archaeological, and cultural properties. (page 3-3, paragraph 3-2e)
5.	The FFCA. (page 3-4, paragraph 3-2g)

LESSON 4

PLANNING

OVERVIEW

LESSON DESCRIPTION:

This lesson describes what is included in the planning phase of training and operations. It also describes how environmental considerations are a part of the decision-making process.

TERMINAL LEARNING OBJECTIVE:

ACTION:	Describe the military decision-making and risk assessment processes required in environmental planning.
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment with no supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from FM 4-04.4, FM 5-0 (101-5), FM 1-02, FM 100-14 and TVT 5-56.

INTRODUCTION

Each day leaders make decisions affecting the environment. These decisions affect natural and cultural resources entrusted to the Army and have serious environmental and legal consequences for decision makers. The military's inherent responsibility to the nation is to protect and preserve its environmental resources. Risk management is an effective process used to assist in preserving these resources. Unit leaders identify actions that may negatively impact the environment and take appropriate steps to prevent or mitigate damage. This lesson illustrates how to use the risk management process to assess and manage environmental-related risk during planning, training, and operations.

4-1. The Military Decision-Making Process. The military decision-making process (MDMP) is a single, established, proven analytical process. The MDMP is a tool that assists the commander and staff in developing estimates and a plan. The commander and staff examine a battlefield situation and reach logical decisions. The process helps them apply thoroughness, clarity, sound judgment, logic, and, professional knowledge to reach a decision. The MDMP model contains seven steps, each of which incorporates environmental considerations (Figure 4-1).

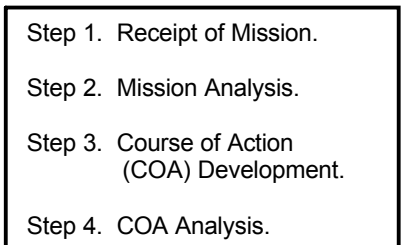

Figure 4-1. Steps in the MDMP

a. The staff prepares for the mission analysis immediately upon receipt of a warning order by gathering the tools needed to perform a mission analysis. These tools include the following:

- Higher HQ order or plan.
- Maps of the area to help the commander assess likely areas for significant environmental considerations.
- The commander's or higher HQ SOPs.
- Appropriate documents and references, applicable HN agreements, Department of Defense (DOD) overseas environmental baseline guidance document (OEBGD) or similar instructions or guidance.
- Any existing staff estimates as well as applicable lessons learned or AAR materials.

b. Staff officers should develop a generic list of environmental considerations and associated requirements in their respective areas to add to the general guidelines given in FM 5-0 (101-5), Appendix A.

(1) Mission Analysis. Mission analysis has seventeen subordinate steps. While this process results in the staff formally briefing the commander, there may be items of such importance to the commander and the formulation of his commander's guidance that they need to be brought to his attention immediately rather than withheld until the formal briefing. Anticipation, prior preparation, and a trained staff are the keys to a timely mission analysis.

Step 1. Analyze the higher HQ order. The commander and his staff thoroughly analyze the higher HQ order and identify guidance on environmental considerations. If confused by the higher HQ order or guidance, the staff must *seek clarification immediately*. While there is generally a specific annex or appendix on environmental considerations in the higher HQ order, it is not the only source of guidance. Coordinating instructions or guidance from others may also contain information critical to environmental considerations.

Step 2. Conduct initial intelligence preparation of the battlefield (IPB). The IPB is a systematic, continuous process of analyzing the threat and the effects of the environment on the unit. It identifies facts and assumptions that determine a likely threat COA. The IPB supports the commander and his staff and is essential to developing estimates and performing decision making. Environmental considerations may make it prudent to focus some of the IPB support to assist in site selection for units moving into an

operational area. Environmentally sensitive areas are defined in FM 1-02 (101-5-1) as environmental areas of interest. Environmental areas of interest include natural and man-made structures, such as waste treatment plants and dams.

Step 3. Determine specified, implied, and essential tasks. The staff analyzes higher HQ orders to determine which environmental considerations should be specified, implied, and essential tasks. The mission determines if environmental considerations are essential tasks. If, for example, the mission is focused on response to a natural or man-made emergency, it is more likely that environmental considerations will be important.

Step 4. Review available assets. The commander and his staff examine additions to and deletions from the current task organization, support relationships and status (current capabilities and limitations) of all units. They consider the relationship between specified and implied tasks and available assets. From this information, they determine whether they have the assets to perform all specified and implied tasks. If there are shortages, they identify additional resources needed for mission success. Current subordinate unit capabilities to deal with environmental considerations may be limited. If environmental considerations require expertise that is not organic to the commander's unit or his subordinate units, it is critical that those issues are raised.

Step 5. Determine constraints. A higher commander normally places some constraints on his subordinate commanders that restrict their freedom of action. Environmental considerations may also cause constraints on an operation. The commander and his staff must identify and understand these constraints. These will normally be found in the scheme of maneuver, the concept of operations, and the coordinating instructions. The commander ensures that critical environmental constraints are up front in the body of the order and not merely relegated to an annex or appendix.

Step 6. Identify critical facts and assumptions. The staff gathers two categories of information concerning the assigned task facts and assumptions. Facts are statements of known data concerning the situation including enemy and friendly dispositions, available troops, unit strengths, and material readiness. Assumptions are suppositions about the current or future situation that are assumed to be true in the absence of facts. They take the place of necessary, but unavailable facts, and fill the gaps in what the command and staff know about a situation. An assumption is appropriate if it meets the tests of validity and necessity. Validity means the assumption is likely to be true. "Assuming away" potential problems, such as weather, environmental considerations, or likely enemy options, would result in an invalid assumption. Necessity is whether or not the assumption is essential for planning. If planning can continue without the assumption, it is not necessary and should be discarded. When possible, assumptions are cleared with the higher HQ to ensure they are consistent with the HQ plan. Assumptions are replaced with facts as soon as possible. The mission may require significant environmental considerations. In this case, the facts and assumptions regarding environmental considerations may take a preeminent position in the planning process.

Step 7. Conduct risk assessment. The commander and staff identify accident risk hazards and make an initial assessment of the risk level for each hazard. The commander also makes an initial assessment of where he might take tactical risk. While the focus of risk assessment is on tactical risk, significant issues for accident risk, with respect to the environment, are also considered.

Step 8. Determine initial commander's critical information requirements (CCIRs). The CCIR identifies information needed by the commander to support battlefield visualization and to make critical decisions, especially to determine or validate courses of action. They help the commander filter information by defining what is important to mission accomplishment. Environmental considerations that may be part of the CCIR include protection of cultural and historical sites, water sources, HW/polluted industrial sites, or other significant safety considerations.

Step 9. Determine the initial reconnaissance annex. Based on the IPB and the CCIR, the staff (primarily the intelligent officer [US Army] [S2]), identifies gaps in the intelligence and develops an initial reconnaissance and surveillance plan to acquire information based on available reconnaissance assets. This may include acquiring the support of outside agencies and higher HQ. Special requests for environmental information on environmental considerations critical to the operation are included in the initial IPB and CCIR.

Step 10. Plan use of available time. The commander and his staff refine their initial plan for the use of available time. They compare the time needed to accomplish essential tasks to the higher HQ timeline to ensure mission accomplishment within the allotted time.

Step 11. Write the restated mission. The executive officer (XO) or the operations and training officer (US Army) (S3) prepares a restated mission for the unit based on the mission analysis. The restated mission includes on-order missions; be-prepared missions are in the concept of operations. Environmental considerations may be addressed in the restated mission, especially if the unit mission is to respond to a forest fire, flood, or some other natural or man-made disaster.

Step 12. Conduct a mission analysis briefing. Time permitting, the staff briefs the commander on its mission analysis. The relevant conclusions about environmental considerations, drawn from the mission analysis, help the commander and staff to develop a shared vision of the requirements for the upcoming operation.

Step 13. Approve the restated mission. Immediately after the mission analysis briefing, the commander approves a restated mission. Once approved, the restated mission becomes the unit's mission. If environmental considerations are crucial to the mission, they may become a part of the restated mission.

Step 14. Develop the initial commander's intent. The initial commander's intent is a clear, concise statement of what the force must do to succeed with respect to the enemy and the terrain and to achieve the desired end state.

Step 15. Issue the commander's guidance. After the commander approves the restated mission and states his intent, he or she provides the staff with enough additional guidance to focus staff activities while planning the operation. This is the location for guidance on environmental considerations. In the case of combat operations, most environmental considerations will take a relative back seat to other considerations, as greater environmental risk is likely to be taken.

Step 16. Issue a warning order (WO). Immediately after the commander provides his guidance, the staff sends subordinate and supporting units a WO. The staff ensures that risk guidance includes pertinent environmental considerations.

Step 17. Review facts and assumptions. Ideally, initial mission analysis will identify and quantify most of the likely environmental considerations. During the rest of the decision-making process, the commander and staff periodically review available facts and assumptions. New facts may alter requirements and analysis of the mission. Assumptions may have become facts or may have become invalid. Whenever the facts or assumptions change, the commander and staff assess the impact of these changes on the plan and make the necessary adjustments. The discovery of additional environmental considerations is likely, as the planning progresses and reconnaissance information if forthcoming.

(2) Course of Action (COA) Development. After receiving guidance, the staff develops COAs for analysis and comparison. During COA development, the commander and staff continue the risk

management process. Environmental considerations will usually be most prominent in meeting the criteria of suitability and acceptability. The staff develops the COAs to accomplish the mission and meet the commander's guidance with respect to environmental considerations.

(3) Course of Action (COA) Analysis. The war game helps the commander and his staff to focus on each stage of the operation in a logical sequence. Every staff member must determine the force requirements for external support, risks, and each COA's strengths and weaknesses. Determining evaluation criteria is probably the most important step of war-gaming for environmental consideration. If environmental considerations are prominent enough, they are included in the commander's guidance and intent, as well as in the specified criteria for the level or residual risk for accident hazards in the COA. It is a requirement for staff officers to conduct risk management for each COA. Every COA must clearly identify the level of risk that the commander is willing to accept to include those associated with environmental considerations.

(4) Course of Action (COA) Comparison. Environmental considerations will normally be included in the general criterion of "residual risk," or if significant enough, may even be a separate criterion. If any environmental consideration was important enough to be in the commander's guidance or intent, it will be listed here as well.

(5) Commander's Decision Briefing. After completing its analysis and comparison, the staff identifies its preferred COA and makes a recommendation. If the staff cannot reach a decision, the XO decides which COA to recommend at the commander's decision briefing. The staff then briefs the commander. Critical environmental considerations have become one of the criteria in the decision matrix.

(6) Course of Action (COA) Approval. Critical environmental considerations listed in the commander's guidance or intent will be a factor in the commander's approval of a particular COA.

(7) Orders Production. Environmental concerns are addressed by every staff officer, as applicable, in respective annexes and appendices.

4-2. Environmental-Specific Planning. Environmental-specific planning focuses on providing units with the additional environmental-related resources and information necessary to accomplish their missions. Operational and support planning also includes environmental-protection objectives. In operational situations, whether for training, contingency operations, or combat, environmental planning focuses on the mission requirements of a military unit. This planning includes identifying environmental risks posed by an operation and considering ways to reduce those risks during long-, short-, and near-term planning. Units require facilities, training areas, and support systems that must be managed to secure long-term availability. Environmental-support planning is, by nature, long-term.

a. Operational Planning. Operational planning usually begins with a formal staff estimate as a part of the MDMP. However, operational planning may entail a separate study on the characteristics of the area of operation (AO) or an informal review of the environmental considerations and issues contained in the higher HQ OPLAN or OPORD.

b. Staff Planning. Staffs conduct environmental planning within the context of the mission. Their efforts produce information that helps units understand the mission's environmental requirements. Most often, staffs develop this information in the form of staff estimates, environmental-protection levels, and an environmental-baseline survey (EBS).

(1) Individual staff officers incorporate environmental considerations into their staff estimates. The staff estimate may include the following:

- Significant environmental weaknesses and sensitivities in the AO.
- Potential enemy environmental targets.
- Critical or unique resources to the area.
- Environmental conditions related to the situation.
- Applicable laws and regulations.

(2) Staffs identify environmental weaknesses and critical terrain that may be a factor to be avoided, actively protected, or temporarily exploited to accomplish the mission. They identify potential enemy environmental targets and plan contingency responses. The following environmental factors normally require consideration during staff estimates:

- Topography and soils.
- Vegetation, including crops.
- Air quality.
- Wildlife and livestock.
- Archaeological and historical sites.
- Safety and public health.
- Land and facility use, occupation and return.
- Water quality, including surface water, groundwater, storm water, and wetlands.
- HM and HW disposal and potential cleanup requirements.
- Socioeconomic and political condition sensitivities and desired end states pertaining to, or functions of environmental conditions.

(3) The staff develops an OPORD, OPLAN, or CONPLAN and may publish a full environmental annex/appendix only once. To facilitate changes in environmental requirements, the command may produce an environmental-protection-level matrix similar to the example in Figure 4-2. This matrix ties directly into risk assessment and is applied in the MDMP during mission analysis.

- Standard levels of environmental protection facilitate planning, communications, and flexibility. The notional array of protection levels in Figure 4-2 ranges from Level 1 to Level 4. Level 1 is less restrictive and more appropriate for tactical units in combat. Level 4 is very restrictive and more appropriate for tactical units in garrison, on fixed installations, during major training exercises, or while performing humanitarian missions in relatively secure and developed areas. Levels 2 and 3 are merely intermediate steps between the baseline and optimal levels.

- Staffs may use a matrix to designate protection requirements for specific missions or areas, to clearly identify and quickly notify units of changes, or to notify newly arriving units of the rules in the AO.

Environmental-Protection Level				
Level 1		**Level 2**	**Level 3**	**Level 4**
1. Waste Management				
a. Human waste	Unit SOP	Slit trench	Burnout latrine	Sanitary sewer
b. Solid waste	Unit SOP	Unit incineration or burial	Incineration	Landfill
c. Medical waste	Unit SOP	Field collection, consolidate disposal	US or HN approved disposal methods	Same
d. Hazardous waste	Unit SOP	Field collection, battalion disposal	Unit collection point, classify, label, Defense Logistics Agency (DLA) contract	RCRA or HN procedures
2. Hazardous Materials				
	Unit SOP	Spill response, report any water contamination	HM tracking, spill response, report spills over 50 gallons	Spill prevention plans, response teams
3. Natural Resources				
a. Water	Unit SOP	Unit SOP	Erosion control	No degradation of water due to erosion or effluent
b. Vegetation	Unit SOP	Restriction on camouflage	Clearing in excess of 100 acres requires joint task force (JTF) approval	Clearing requires environmental assessment
c. Air	Unit SOP	Dust suppression, nonhazardous only	Control open fires, fugitive dust	Controls on incineration and traffic
d. Wildlife	Unit SOP	Unit SOP	Note and avoid specific habitats	Taking of species prohibited
4. Cultural and Historical Resources				
	Unit SOP	Minimize damage if possible	Division-level approval required for operations in area	JTF approval required for operations in area

Figure 4-2. Notional Environmental Protection Matrix

(4) Many operations require fixed facilities, structures, or other real property for logistics, command and control, administration, communications, billeting, base camp, or other mission purposes. If the tactical situation permits, commanders conduct or direct an initial EBS before occupying the AO.

(5) The initial EBS serves as a tool to assist in determining whether a parcel of land is acceptable for military use. The initial question should always be whether the site is healthy for soldiers. It documents the proposed sites, existing environmental conditions, and the likelihood of past or ongoing activities that may have created environmental, safety, or health problems. These problems include contamination of air, soil, groundwater, and surface water by toxic substances or POL.

(6) EBS documentation becomes extremely important at the end of the mission or upon completion at a facility. At that time, a closure EBS is done. Examples of areas to be addressed in an EBS are below. A complete list may be found in FM 4-04.4 (3-100.4), Chapter 2.

- Property description and condition.

- Soil type and land cover.

- Water supply and source.
- Air quality.
- Signs of contamination.

(7) As soon as time and conditions permit, a more formal or updated EBS and site assessment may be completed. The periodic use of environmental-conditions reports (ECRs) will assist the unit in both maintaining environmental standards and documenting their stay at a site/area.

c. Unit Planning. Staffs integrate environmental protection into planning for larger units. Unit leaders integrate environmental protection into unit planning for battalion- and company-level units. Unit planning includes SOPs, OPORDs, risk management plans, and training plans.

(1) Standing Operating Procedures. Unit leaders develop SOPs reflecting environmental protection considerations for routine tasks and activities. SOPs provide information to soldiers on how to accomplish routine tasks in an environmentally sound manner. SOPs incorporate local requirements, in which unit leaders ensure that the SOPs coordinate with the higher HQ staff.

(2) Orders/Plans. Unit leaders address environmental protection in their plans and orders (WOs, OPORDs, OPLANs, CONPLANs, and fragmentary orders [FRAGOs]). The higher HQ staff develops an environmental appendix/annex to its OPORD/OPLAN/CONPLAN. Subordinate unit leaders draw environmental information from the environmental appendix to the OPORD/OPLAN/CONPLAN.

4-3. The Risk Management Process. FM 5-0 (101-5) describes risk management as the process of detecting, assessing, and controlling risk arising from operational factors and balancing risk with mission benefits. Risk management is an integral part of the MDMP. FM 100-14 (3-100.14) outlines the risk management process and provides the framework for making risk management a routine part of planning, preparing, and executing operational mission and everyday tasks. Assessing environmental-related risks is part of the total risk management process. Knowledge of environmental factors is the key to planning and decision making. With this knowledge, leaders quantify risks, detect problem areas, reduce the risk of injury or death, reduce property damage, and ensure compliance with environmental laws and regulations. Unit leaders should conduct risk assessments before conducting any training, operations, or logistical activities.

a. Tactical Risk and Accident Risk. When assessing the risk of hazards in operations, the commander and staff must look at two types of risk.

(1) Tactical risk is concerned with hazards that exist because of the presence of either the enemy or an adversary, thus involving the considerations of force protection. For example, during the Gulf War, the enemy's demolition of oil fields created a significant health and environmental hazard to the surrounding countryside and to those units maneuvering through the area.

(2) Accident risk includes all operational risk considerations other than tactical risk. It includes risk to friendly forces and risk posed to civilians by an operation, as well as the impact of operations on the environment. For example, improper disposal of HW, personnel that are not properly trained to clean up a spill, and units maneuvering in ecologically sensitive terrain.

(3) Tactical risk and accident risk may be diametrically opposed. The commander may choose to accept a high level of environmental-related accident risk to reduce the overall tactical risk.

b. Legal and Regulatory Responsibilities. Risk management does not convey authority to deliberately disobey local, state, national, or HN laws and regulations. It justifies neither ignoring regulatory restrictions and applicable standards nor bypassing risk controls required by law.

c. Environmental Benefits of Risk Management. Risk management assists commanders in complying with environmental regulatory and legal requirements and operating within the higher commander's intent. Risk management provides leaders a tool to do the following:

- Identify applicable environmental standards, laws, and rules of engagement (ROE) that affect the mission.
- Identify alternate COAs or alternate standards that meet the intent of the law and the operational requirements.
- Identify feasible and effective control measures where specific standards do not exist.
- Ensure better use of limited resources, such as training areas and ranges.
- Insure the health and welfare of soldiers and other effected personnel.
- Minimize or eliminate damage to natural and cultural resources.

d. Risk Management Principles. Commanders use three risk management principles as described in FM 100-14 (3-100.14) to guide environmental-risk decision making.

- Integrate risk management into mission planning, preparation, and execution.
- Make risk decisions at the appropriate level in the chain of command.
- Accept no unnecessary risk.

e. The Five-Step Process. The following steps identify specific environmental considerations that the commander and staff must consider:

Step 1. Identify environmental hazards.

Step 2. Assess environmental hazards to determine the risk.

Step 3. Develop controls and make risk decisions.

Step 4. Implement the controls.

Step 5. Supervise and evaluate.

f. Knowledge of Environmental Factors. The knowledge of environmental factors is key to planning and decision-making. With this knowledge, leaders quantify risks, detect problem areas, reduce risk of injury or death, reduce property damage, and ensure compliance with environmental laws and regulations.

Step 1. Identify Environmental Hazards. Commanders and staffs identify environmental hazards during mission analysis. FM 100-14 (3-100.14) defines hazards as any actual or potential condition that can cause injury, illness, or death to personnel; damage to or loss of equipment or property;

or mission degradation. Environmental hazards include all activities that may pollute, create negative noise-related effects, degrade archaeological/cultural resources, or negatively affect, threaten, or endanger species' habitat.

Step 2. Assess Environmental Hazards to Determine the Risk. Risk assessment is a three-stage process used to determine the risk of potential harm to the environment. The three stages is to assess the probability of each hazard, assess the severity of each hazard, and determine the risk level of each hazard.

- Assessments include two factors—probability and severity. Probability is how often an environmental hazard is likely to occur. Severity is the effect a hazard will have expressed in terms of the degree of injury or illness, loss of or damage to equipment or property, environmental damage, and other mission-impairing factors, such as loss of combat power.

- Probability and severity are estimates that require individual judgment and a working knowledge of the risk management process and its terminology. Leaders must assess the probability and the potential severity of environmental damage. Commanders use common sense, past evaluations, higher commander guidance, historical data, lessons learned, and any other useful sources to determine the probability of an event occurring. Severity, however, attempts to quantify the amount of potential damage created by an event. While leaders must assess the probability of environmental damage, they must also determine how much damage the event would cause, regardless of the probability.

- It is usually easier to determine probability than severity. Definitions for the degrees of severity are not absolutes; they are more conditional and related to mission, enemy, terrain, troops, time available, and civilian considerations (METT-TC). Leaders must use their experience, judgment, lessons learned, and subject matter experts to assist them in determining degrees of severity. The following examples of severity for archaeological, historical, or cultural sites provide leaders a frame of reference for what may be included when estimating degrees of severity.

    - **Catastrophic**. Irreparable damage to or total loss of an irreplaceable site. Commanders can anticipate widespread public concern. Such damage will require notification of higher HQ, the public affairs office, and outside agencies.

    - **Critical**. Major physical damage to a historical/cultural structure. Restoration will be difficult, long-term, and costly and will require assistance and notification of higher HQ, the public affairs office, and outside agencies.

    - **Marginal**. Minor physical damage to historical/cultural structures, which can be restored with outside assistance. Units must report damage to higher HQ.

    - **Negligible**. Surrounding site damage from individual and vehicular activities will be easily repaired or restored by the unit. There is no physical damage to structures; however, the unit must report damage to higher HQ.

Step 3. A leader determines the risk level of each hazard. Then, using the defined degrees of probability and severity, and the risk assessment matrix, he determines the overall environmental-related risk level. The risk categories are as follows and are further illustrated in Figures 4-3 and 4-4, page 4-14:

Severity Rating	Definition
Catastrophic (I)	Loss of ability to accomplish the mission or near mission failure, death or permanent total disability (accident risk), loss of major property (facility) damage, severe (strategic) environmental damage, mission-critical security failure, unacceptable collateral damage.
Critical (II)	Significantly (severely) degraded mission capability or unit readiness, permanent partial disability, temporary total disability exceeding three months time (accident, risk), extensive (major) damage to equipment or systems, significant damage to property or the environment, security failure, significant collateral damage.
Marginal (III)	Degraded mission capability or unit readiness, minor damage to equipment or systems, property, or the environment; lost days due to injury or illness not exceeding three months (accident risk); minor damage to property or the environment.
Negligible (IV)	Little or no adverse impact on mission capability, first aid or minor medical treatment (accident risk), slight equipment or system damage but fully functional and serviceable, little or no property or environmental damage.

Figure 4-3. Hazard Severity

- **Extremely high (E)**. Mission failure if hazardous incidents occur during mission. There is a frequent or likely probability of catastrophic loss (IA or IB) or frequent probability of critical loss (IIA).

- **High (H)**. Significantly degraded mission capabilities in terms of required mission standards. Degradation of a mission includes not accomplishing all parts of the mission; not completing the mission to standard (if hazards occur during the mission); occasional to seldom probability of catastrophic loss (IC or ID); a likely to occasional probability of a critical loss (IIB or IIC) occurring with material and soldier system; or frequent probability of marginal (IIIA) losses.

- **Moderate (M)**. Expected degraded mission capabilities in terms of required mission standard. Degradation may include reduced mission capability (if hazards occur during mission) or unlikely probability of catastrophic loss (IE). The probability of a critical loss occurring is seldom (IID). Marginal losses occur with a probability of no more often than likely (IIIB or IIIC). Negligible losses are a frequent probability.

- **Low (L)**. Expected losses have little or no impact on accomplishing the mission. The probability of critical loss is unlikely (IIE), while that of marginal loss is seldom (IIIB through IIIE).

- A leader determines the risk level of each hazard. Then using the defined degrees of probability and severity an individual can determine the overall environmental-related risk level from the intersection of the two in the risk assessment matrix shown in Figure 4-4.

Risk Assessment Matrix					
	Probability				
Severity	Frequent (A)	Likely (B)	Occasional (C)	Seldom (D)	Unlikely (E)
Catastrophic (I)	E	E	H	H	M
Critical (II)	E	H	H	M	L
Marginal (III)	H	M	M	L	L
Negligible (IV)	M	L	L	L	L

Figure 4-4. Risk Assessment Matrix

Step 3. Develop Controls and Make Risk Decisions. Controls eliminate or reduce the probability or severity of each hazard, thereby lowering the overall risk. Controls include of one the following categories—educational, physical, or avoidance.

- Many environmental risk controls are simply extensions of good management, housekeeping**,** operations security (OPSEC), and leadership practices.

- Once all feasible risk control measures are in place, some risk will always remain. This residual risk requires leaders' attention. Unit leaders inform their chain of command of the residual risk and its implications on the operation. The commander alone decides whether or not to accept the level of risk.

g. Implement Controls. Inform subordinates, down to individual soldiers, of risk control measures. State how each control will be implemented, and assign responsibility. This preparation requires leaders to anticipate environmental requirements and incorporate them into long-, short-, and near-term planning. The key to success is identifying the "who, what, where, when, and how" aspects of each control.

h. Supervise and Evaluate. Leaders and staffs continuously monitor controls throughout the operation to ensure their effectiveness and to modify controls as required. They also make on-the-spot corrections, evaluate individual and collective performance, hold those in charge accountable, and require that all tasks be performed to applicable environmental standards. Leaders ensure that the AAR process includes an evaluation of environmental-related hazards, controls, soldier performance, and leader supervision.

4-4. Summary. It is essential to include environmental considerations early and throughout the planning cycle. Unit leaders use risk assessment to estimate the impact of their unit activities on the natural environment and to identify environmental-related safety issues for their soldiers. Knowledge of environmental factors is the key to planning and decision making. Risk management does not convey authority to deliberately disobey local, state, national, or HN laws and regulations. Risk management assists commanders in complying with environmental regulatory and legal requirements and operating within the higher commanders' intent. Unit leaders should complete risk assessments before conducting training, operations, or logistical activities. Risk assessments assist leaders and their staff to identify potential environmental hazards, develop controls, make risk decisions, implement those controls, and ensure proper supervision and evaluation.

LESSON 4

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answer with the answer key that follows. If you answer any item incorrectly, review the part of the text that contains the portion involved.

1. What are the seven steps of the MDMP?

2. What does environmental-specific planning focus on?

3. What is an EBS?

4. Give an example of a tactical risk.

5. Name the steps of the five-step process.

LESSON 4

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	Step 1. Receipt of Mission. Step 2. Mission Analysis. Step 3. COA Development. Step 4. COA Analysis. Step 5. COA Comparison. Step 6. COA Approval. Step 7. Orders Production. (page 4-2, Figure 4-1)
2.	Environmental-specific planning focuses on providing units with the additional environmental-related resources and information necessary to accomplish their missions. (page 4-6, paragraph 4-2)
3.	An EBS serves as a tool to assist in determining whether a parcel of land is acceptable for military use. (page 4-8, paragraph 4-2b(5)).
4.	Tactical risk is concerned with hazards that exist because of the presence of either the enemy or an adversary, thus involving the considerations of force protection. For example, during the Gulf War, the enemy's demolition of oil fields created a significant health and environmental hazard to the surrounding countryside and to those units maneuvering through the area. (page 4-9, paragraph 4-3a(1))
5.	The five-step process. The following steps identify specific environmental considerations that the commander and staff must consider: Step 1. Identify environmental hazards. Step 2. Assess environmental hazards to determine the risk. Step 3. Develop controls and make risk decisions. Step 4. Implement the controls. Step 5. Supervise and evaluate. (page 4-11, paragraph 4-3e)

LESSON 5

TRAINING

OVERVIEW

LESSON DESCRIPTION:

This lesson discusses the US Army's integration of environmental considerations into training.

TERMINAL LEARNING OBJECTIVE:

ACTION:	Describe methods to integrate environmental considerations into the training management cycle (TMC).
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment with no supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from FM 4-04.4 (3-100.4), FM 7-10 (25-101), TC 3-34.489, and TVT 5-56.

INTRODUCTION

The integration of environmental considerations into training is very similar to the integration of safety and force protection issues. In fact, environmental considerations are a critical aspect of both realistic training and force protection. The discussion of battle-focused training highlights the integration of environmental considerations throughout the training cycle.

5-1. Battle-Focused Training. Battle-focused training is a concept used to derive peacetime training requirements from wartime missions and is addressed further in FM 7-10 (25-101), and shown in Figure 5-1, page 5-2. Training is the cornerstone of readiness for the military and focuses on wartime missions. Environmental considerations are less preeminent during combat operations, but that does not mean environmental considerations can be ignored or that they simply "go away." Units must plan for environmental considerations prior to conducting training. This lesson focuses on how environmental considerations fit into the planning cycle and how to identify where specific actions take place.

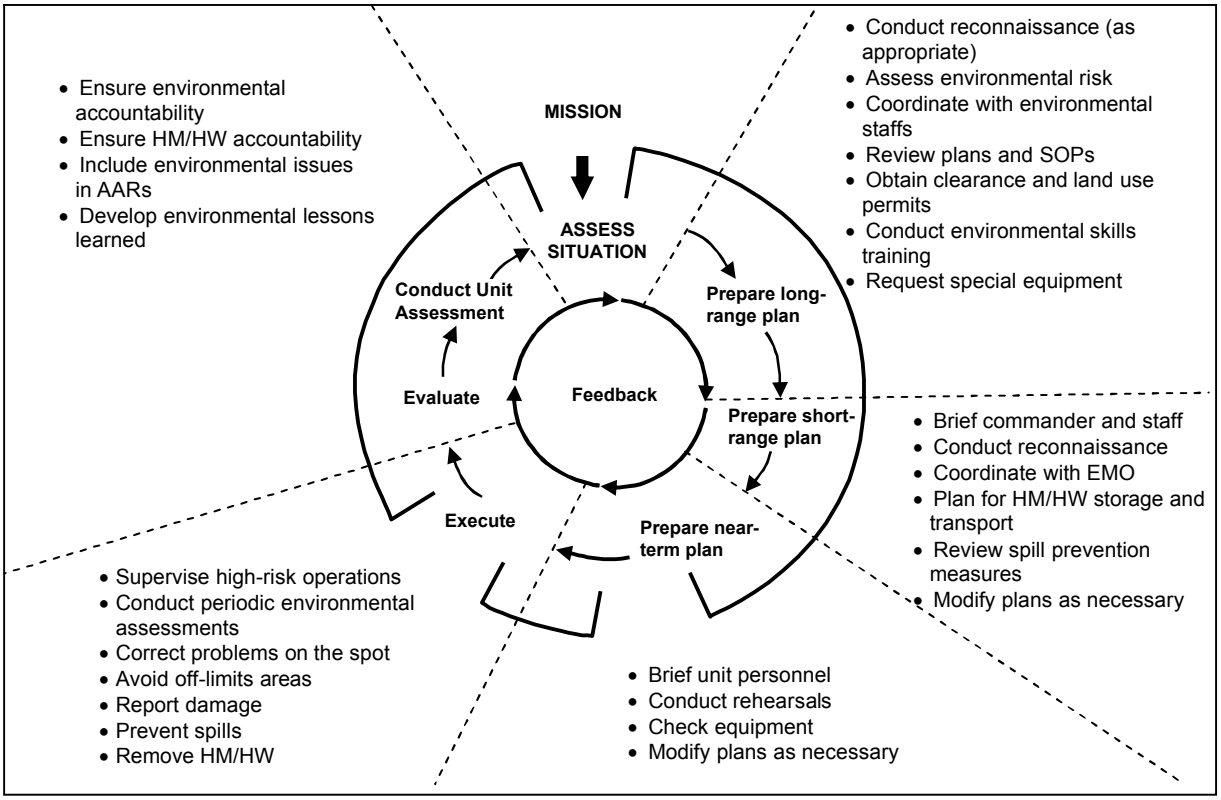

Figure 5-1. Integrating Environmental Considerations into Unit Planning/Training

a. Assessment. The planning process begins with assessment. In-depth assessment determines a strategy to improve training proficiency on specific weaknesses and to plan sustainment training on demonstrated strengths. Assessment links the evaluation of completed training to the planning of upcoming training. Commanders must assess the unit's internal and overall status of the environmental training program and unit proficiency.

b. Long-Range Planning. At the battalion level, long-range planning starts with unit assessment and is the basis for the long-range calendar. Resources, such as major training areas, ammunition, and fuel, are allocated, and shortfalls are identified. The long-range plan synchronizes supporting units and agencies so that effective training events can be properly executed.

c. Risk Management. Leaders use risk management, review SOPs, and ensure that personnel receive the correct tools to avoid/mitigate environmental damage. Environmental considerations are addressed and methods are developed to overcome problems so that effective training can be accomplished. Items that require an environmental focus during this phase include the following:

- Conducting reconnaissance of the training site.
- Assessing the environmental risk.
- Coordinating with installation environmental staffs.
- Reviewing plans and SOPs.
- Obtaining clearance and land use permits.

- Conducting environmental-skills training.
- Requesting special equipment or support.

d. Short-Range Planning. Short-range planning refines the long-range calendar. It defines in greater detail the broad guidance on training events and other activities on the long-range planning calendar and in command training guidance. During short-range planning, leaders review existing procedures, issue specific environmental guidance, update risk assessment matrices and unit SOPs, and train their soldiers on new environmental-protection procedures. Activities that require an environmental focus during this phase include the following:

- Briefing the commander and staff.
- Conducting reconnaissance of the training site.
- Obtaining maps or overlays indicating environmentally sensitive areas.
- Coordinating with the environmental-management office to identify recent changes in environmental conditions.
- Planning for HM/HW storage and transport.
- Reviewing spill prevention measures.
- Modifying plans as necessary.

e. Near-Term Planning. Near-term planning defines specific actions required to execute the short-range plan. It is the final phase of planning before the execution of training. During this phase, key leaders inspect equipment and ensure that soldiers perform maintenance and preventive maintenance checks and services (PMCS) before a field exercise. The environmental focus is on the following:

- Briefing unit personnel on environmental constraints and issues.
- Conducting rehearsals that include environmental considerations.
- Conducting final reconnaissance of training sites to confirm environmental conditions prior to training execution.
- Checking equipment.
- Ensuring that unit SOPs are up-to-date and meet the requirements for the specific training sites.
- Checking spill response equipment.
- Modifying plans as necessary.

f. Phase Preexecution Checks. Also during this phase, preexecution checks are developed, and the responsibility for them is fixed during the short-range planning phase. Three major environmental considerations are as follows:

- Has an environmental-risk assessment been completed and have safety considerations been incorporated?

- Have reconnaissance of the training ranges, sites, or facilities been conducted?

- Have leaders been briefed on environmental considerations?

g. Preparation for Training Execution. Formal planning for training culminates with the publication of the training schedule. Informal planning and coordination continue until the training is performed. During rehearsals, leaders ensure that all safety and environmental considerations are met.

h. Execution. During operations, leaders ensure that environmental practices and preventive measures are employed.

(1) Precombat checks. Preexecution and precombat checks are key to ensuring that trainers and soldiers are adequately prepared to execute training to standard. Precombat checks are the bridge between preexecution checks and training execution. Leaders ensure the execution of precombat checks by—

- Briefing environmental considerations in the OPORD.

- Including environmental considerations in the safety checks and briefings.

- Verifying completion of precombat (before operations) PMCS completed on vehicles, weapons, communications, and nuclear, biological, and chemical (NBC) equipment, to include environmental considerations.

- Checking and confirming vehicle load plan, and securing of cargo, especially HM.

(2) Presentation of Training. Through the presentation of training, leaders provide soldiers with specific training objectives and evaluation methods to be used. Environmental constraints may alter the conditions under which the task is performed, but should never alter the task standards.

i. Evaluation. The evaluation process is continuous and integral to training management. The AAR process includes environmental performance and should address all environmental considerations listed in the training evaluation plan. The evaluation and AAR should cover the following:

- Ensuring environmental accountability.

- Ensuring HM/HW accountability.

- Including environmental issues in AARs.

- Developing environmental lessons learned.

j. Unit Assessment. Leaders use evaluations and other feedback to assess soldier, leader, and unit proficiency. Based on evaluations, commanders adjust priorities and resources as necessary to synchronize all unit functions.

5-2. Environmental-Specific Training and Resources. All personnel require environmental awareness training. It provides basic information on installation and unit environmental practices, leads to safer performance, and establishes an environmental ethic among soldiers. In addition to awareness training, individuals with certain duties and responsibilities require specialized training. Unit leaders address HM/HW training separately from routine environmental-training requirements.

5-3. Summary. It is essential to include environmental considerations early and throughout the training cycle. The integration of environmental considerations is an easy fit that causes no functional change in battle-focused training. Unit commanders are required to implement environmental-specific training to include environmental awareness, spill prevention and response, HM/HW transportation, storage and turn-in procedures, accountability, and management. Incorporating the environmental considerations into training should not change the standard procedures or considerations that a unit and its leaders apply to an operation.

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LESSON 5

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answer with the answer key that follows. If you answer any item incorrectly, review the part of the text that contains the portion involved.

1. What is battle-focused training?

2. Describe the long-range planning process?

3. What do leaders do during short-term planning?

4. Explain near-term planning?

5. Who is required to take environmental-awareness training?

LESSON 5

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	Battle-focused training is a concept used to derive peacetime requirements from wartime missions. (page 5-1, paragraph 5-1)
2.	Long-range planning synchronizes supporting units and agencies so that effective training events can be properly executed. Resources such as major training areas, ammunition, and fuel are allocated and shortfalls are identified. (page 5-2, paragraph 5-1b)
3.	During short-range planning, leaders review existing procedures, issue specific environmental guidance, update risk assessment matrices and unit SOPs, and train their soldiers on new environmental-protection procedures. (page 5-3 paragraph 5-1d)
4.	Near-term planning defines specific actions required to execute the short-range plan. It is the final phase of planning before the execution of training. During this phase, key leaders inspect equipment and ensure that soldiers perform maintenance and PMCS before field exercise. (page 5-3, paragraph 5-1e)
5.	All personnel require environmental awareness training. In addition to awareness training, individuals with certain duties and responsibilities require specialized training. (page 5-5, paragraph 5-2)

LESSON 6

SELF-ASSESSMENT

OVERVIEW

LESSON DESCRIPTION:

This lesson discusses the US Army's environmental self-assessment program.

TERMINAL LEARNING OBJECTIVE:

ACTION:	Describe the Army's environmental self-assessment program.
CONDITION:	You will be given all material contained in this lesson. You will work at your own pace and in your own selected environment without any supervision.
STANDARD:	You will correctly answer questions on the practice exercise at the end of the lesson.
REFERENCES:	The material contained in this lesson was derived from FM 4-04.4 (3-100.4), AR 200-1 and TVT 5-56.

INTRODUCTION

Unit-level environmental programs require guidance and support from the chain of command. In developing a unit program, leaders incorporate environmental protection measures into unit SOPs and ensure that personnel receive appropriate environmental training. Major Army commands (MACOMs) conduct environmental-assistance visits to ensure that installations comply with appropriate environmental laws. Unit leaders coordinate with the installation's environmental office and their higher HQ for assistance visits and compliance audits within the unit area. Unit leaders or their designated representatives can also conduct self-assessments to determine how well their unit is following environmental-protection measures.

6-1. Environmental Compliance. The Army determines environmental-compliance status in two ways. Federal, state, and local regulatory agencies conduct formal compliance audits and spot checks on installations and report their findings to the military chain of command and the Environmental-Compliance Assessment System (ECAS), an Army program that provides installation inspections. Installations conduct internal evaluations, while Army MACOMs conduct external evaluations. Federal, state, or local inspections may result in civil and criminal penalties for noncompliance with environmental laws and regulations. Self-assessments may be conducted using the installation status report software, or unit leaders may choose to use a general checklist found in FM 4-04.4 (3-100.4), Appendix H, to assess unit environmental compliance.

a. Federal and State Regulatory Inspections. Regulatory agencies have the legal right and responsibility to inspect units and facilities to ensure compliance with environmental laws and regulations. These agencies usually coordinate inspections through the installation's environmental office, or they may conduct inspections without prior notice. Inspections in other programs may occur at different frequencies. Installations or units with specific major problems can expect frequent follow-up inspections, which may include checks of training records and documentation, permit reviews, and storage facilities.

b. Environmental-Compliance Assessment System (ECAS). Many environmental regulations require self-regulation, which requires the installation to monitor its own programs and notify the regulatory agency when problems occur. The Army established the ECAS as a means of achieving, maintaining, and monitoring compliance with applicable environmental laws. The Army also uses compliance assessments as a vehicle to attain environmental program goals. The Army conducts internal compliance assessments for its installations. Units participate in these assessments, which review all aspects of the installation's environmental status.

6-2. Establishing a Unit-Level Program. To establish an effective unit environmental program, the unit leader should ensure that all unit personnel have had environmental awareness training, designate an ECO who is properly trained and qualified, and meet with key higher level unit staff counterparts and installation personnel who deal with environmental issues. When meeting with installation personnel and higher level unit staff, leaders must find out what their requirements are concerning environmental training, qualifications, and certification of unit personnel and any common environmental problem areas or ECAS inspections that may affect the unit. They must also ensure that the unit has a well-written SOP that addresses environmental issues and procedures that apply to the unit. The following are unit or installation environmental programs that units develop or adopt.

a. Hazardous-Material Management. The Army's objective is to minimize health hazards and environmental damage caused by the use and misuse of HM. A HM is one that, because of its quantity; concentration; and physical, chemical, or infectious characteristics may do the following:

- Cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness.

- Pose a substantial or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

b. Dealing with Hazardous Material. Listed below are examples of what leaders should do when their unit deals with HM. A complete list may be found in FM 4-04.4 (3-100.4), Chapter 6.

- Ensure the best management practices for all HM.

- Comply with all applicable regulations, policies, and procedures.

- Order and use only what is required; do not stockpile HM.

- Conserve resources through recovery, recycling, and reuse.

- Establish a training program, and ensure that personnel are properly trained as required.

c. Hazardous Waste (HW). Hazardous substances, which result in some waste generation, are an unavoidable part of Army activities. The proper handling and disposal of this waste will minimize danger

and ensure the safety of people and the environment. The following are some examples of what leaders should do if their unit deals with HW:

- Establish an HW management program to comply with HW regulations.
- Ensure HW is properly identified. Label stored waste and the containers that hold HW with the correct danger and warning signs.
- Ensure that waste does not accumulate beyond the allowable quantity and time limits.
- Maintain proper HW records, and report periodically, as required by the EPA.

d. Hazardous Communication (HAZCOM). An effective HAZCOM program will assist leaders to determine what hazardous chemicals are present in their units, how to protect their soldiers from hazards those chemicals present, and how to properly store and use those chemicals. The installation safety officer is the point of contact (POC) for most HAZCOM matters, the material safety data sheet (MSDS) program, and the HAZCOM training program. Examples of what unit leaders should do in support of HAZCOM are:

- Ensure that subordinates receive adequate training on HM to which they are exposed, in accordance with the occupational safety and health agency (OSHA) requirement.
- Maintain an up-to-date list of all HM/HW known to be present in their area.
- Ensure that containers of hazardous substances are labeled, tagged, or otherwise marked to identify the material and to warn soldiers of hazards.
- Maintain an MSDS for every HM in the unit, and ensure that soldiers are trained to recognize, understand, and use the MSDS and labels for the HM to which they are exposed.
- Refer to applicable HAZCOM references.

e. Pollution Prevention and Hazardous Waste Minimization (HAZMIN). HAZMIN means reducing the amount and toxicity of the HW generated or produced. Pollution prevention means reducing the amount of material, whether it is hazardous or not. Unit leaders should ensure that their units conduct inventory control. Units should not stockpile HM. If the HM has an expired shelf life, it can cost more to dispose of the item than it did to obtain it, since the HM will now have to be handled as HW. Product substitution is an easy way to reduce HW generation. Use nonhazardous or less hazardous substitutes if available. A process change can reduce the amount of HW generated, but it will still need to be treated as HW. Applicable pollution prevention and HAZMIN references can be found in FM 4-04.4 (3-100.4).

f. Recycling Program. The Army promotes separating products, substituting materials, and changing procedures to avoid the use of hazardous substances (source reduction) and recycling to reduce the volume of solid waste. Most installations have a recycling program. Recyclable materials include: computer printouts, corrugated cardboard, newspaper, aluminum cans, plastics, oil, solvents, glass, steel, and brass. Check with installation personnel to verify what materials are being recycled on your installation.

g. Spill Prevention and Response Plan. It is Army policy and a CWA requirement to prevent oil and hazardous substance spills and to provide prompt response to contain and clean up spills. The discharge of oil or hazardous substances from installations, vehicles, aircraft, and watercraft into the environment without a discharge permit is prohibited. Every reasonable precaution should be taken to

prevent spills of oil and hazardous substances. AR 200-1, FM 4-04.4 (3-100.4), and Title 40 Code of Federal Regulation (CFR) refer to applicable spill prevention references. A few examples of what a unit leader should do are as follows:

- Provide facilities to store, handle, or use oils and hazardous substances, and implement proper safety and security measures.
- Appoint a spill coordinator and members of unit spill response team in writing.
- Maintain an up-to-date spill response plan.
- Maintain an up-to-date inventory of all HM/HW,and provide a copy to the post fire department for use in case of a chemical fire.

6-3. Program Assessment. Environmental-compliance status can be determined through a formal inspection by a regulatory agency. It can also be determined through self-inspections using ECAS checklists as a guide.

a. Non-Army regulatory agencies have the legal right and responsibility to inspect units and individual facilities and actions to ensure compliance. Once a year, EPA inspectors conduct spot inspections of installations, often without notice. Local and state inspectors also conduct frequent inspections. Inspection frequency guidelines have been established under the EPA federal facility compliance strategy.

b. The Army established the ECAS as a means of achieving and monitoring compliance with applicable federal, state, regional, and local environmental laws and regulations. If a unit deals with HM or HW, leaders are required to conduct internal inspections. Installation HW management plans should normally contain information sufficient to develop an inspection plan for HW generation points and accumulation sites at the unit level. The unit leader may also request a copy of the ECAS protocol to assist in developing inspections and recordkeeping plans and to conduct an interior/self-compliance assessment.

6-4. Unit Self-Assessment. Unit leaders use a checklist to assess unit environmental compliance. FM 4-04.4 (3-100.4), Appendix H, has a general checklist that leaders may use. Higher-level staffs within the chain of command or the installation's environmental office may have similar aids specific to a unit or location. Unit leaders, with the assistance of the installation's environmental staff, determine the frequency of self-assessment checks. The commander ensures that the unit's environmental program management system is effective through the use of these self-assessments.

a. Unit Management Practices. Many environmental requirements at the unit level are simply an extension of existing unit management practices. Units exercise good management practices by doing the following:

(1) Using the Army's Hazardous Substance Management System (HSMS). The HSMS applies centralized management and strict inventory control to reduce the use and disposal requirements for hazardous substances by tracking HM.

(2) Conducting Good Housekeeping. Good housekeeping is another basic management practice. It involves areas such as maintenance, operations, and training. An example of good housekeeping is recycling. Recycling diminishes solid waste and helps eliminate unauthorized disposal of some types of HW. Another example is monitoring the shelf life, of HM. HM disposal is expensive

and carries with it a significant administrative burden. When HM have a shelf life, use the first-in, first-out rule. This will help reduce the disposal of outdated HM.

(3) Using Standing Operating Procedures (SOPs). SOPs are an effective management practice requiring soldiers to understand and follow. Unit leaders ensure that the unit has a well-written SOP addressing environmental issues and procedures.

(4) Designating an Environmental Conditions Report (ECO). Commanders, down to the company, troop, and battery levels, must designate an ECO. AR 200-1 requires unit commanders to appoint an ECO in writing and to provide training for the ECO. The ECO coordinates with the installation's environmental staff and ensures that the unit complies with environmental laws and regulations.

(5) Ensuring that all Unit Personnel Complete Environmental Awareness Training. Commanders must also identify those soldiers who require special environmental training. The installation environmental offices and environmental staffs assist subordinate commanders to determine specific environmental-training requirements.

(6) Labeling containers. Labeling HM and HW is a legal requirement. Installation or shipping environmental guidelines specify labeling requirements. Materials not technically classified as hazardous, such as cleaning supplies, lubricants, and paint, must also be labeled. Each unit must develop and enforce procedures to maintain complete records of the environmental actions and activities they perform.

b. Maintenance. Unit maintenance activities have significant potential for environmental impact. The Army has environmental programs that affect maintenance operations in some way. Some specific areas of concern are listed below:

(1) Spill Prevention and Response. Both Army policy and federal law require units to prevent spills of oil and hazardous substances and to provide prompt response to contain and clean up such spills.

(2) HM/HW Storage and Handling. The unit's prescribed load list (PLL) section controls requisitions and receipts for HM and prepares documentation for turn-in of HW.

(3) Refueling. Refueling operations create significant potential for POL spills and fire hazards. Units must ensure that their SOP includes adequate procedures to prevent and respond to spills.

c. Supply. Unit supply personnel account for all materials during HM/HW requisition, transportation, storage, and disposal. Unit leaders ensure that their supply personnel observe stringent HM supply economy measures by ordering only the minimum amount of HM needed and, when possible, order biodegradable, environmentally safe materials. When storing products, use stock rotation to minimize the turn-in of out dated material. Leaders also ensure that supply personnel turn-in or dispose of HM/HW according to local regulations.

d. NBC Defense and Training. NBC hazardous materials are used in NBC defense and training. Unit NBC specialists exercise caution when storing and handling these materials. Leaders ensure that personnel dispose of materials according to local requirements and that the unit has a spill response program in place that addresses NBC activities.

e. Unit Mission Training. Unit leaders must exercise caution with noise pollution, air pollution, waste disposal, spill protection, water pollution, and cultural and natural resource protection. Unit leaders check with the installation training staff concerning training area restrictions and coordinate in advance for environmental guidance due to differing local, state, or HN regulations.

f. Communications. Modern communication systems use many types of batteries. Used batteries are considered a HW in most states, and therefore, unit personnel ensure that SOPs specify storage and disposal procedures for each type of battery in the unit.

g. Operations. Operations do not automatically suspend environmental considerations. Higher commanders' guidance is critical to determining the risk that will be applied to any operation. Leaders may use the risk management principles and the five-step process for guidance.

h. Special Requirements. In addition to meeting the previously stated requirement, some military units, such as the National Guard (NG) and reserve component (RC) units and units stationed in foreign countries must follow additional environmental guidelines. Check with the unit ECO and the supporting HQ for more information.

6-5. Summary. Unit commanders are responsible for building and implementing a unit environmental program. Assistance is available from the installation/garrison/base staffs as well as from unit higher HQ. Tools to assist unit leaders also include generic checklists, available for units to assess compliance with environmental laws and regulations in their daily operations and activities. One generic checklist may be found in FM 4-04.4 (3-100.4), Appendix H. ECAS checklists provide a more comprehensive assessment. Leaders must remember that self-assessment is only a guide and does not provide final determination of compliance.

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LESSON 6

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answer with the answer key that follows. If you answer any item incorrectly, review the part of the text that contains the portion involved.

1. What does the acronym "ECAS" stand for?

_____
_____
_____
_____

2. Define the term "hazardous material."

_____
_____
_____

3. Give five examples of what leaders should do when their unit deals with (HM).

_____
_____
_____
_____

4. Give examples of what materials are recyclable.

_____
_____
_____
_____

5. Units may use a self-assessment checklist to assess unit environmental compliance. Name three good management practices.

_____
_____
_____
_____

LESSON 6

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

Item	Correct Answer and Feedback
1.	Environmental Compliance Assessment System (page 6-2, paragraph 6-1b)
2.	A HM is one that, because of its quantity; concentration; or physical, chemical, or infectious characteristics may do the following: • Cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness. • Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. (page 6-2, paragraph 6-2a(1-2))
3.	If a unit deals with HM, leaders should: • Ensure the best management practices for all HM. • Comply with all applicable regulations, policies and procedures. • Order and use only what is required; do not stockpile HM. • Conserve resources through recovery, recycling, and reuse. • Establish a training program, and ensure that personnel are properly trained as required. (page 6-3, paragraph 6-2b(1-5))
4.	Recyclable materials include computer printouts, corrugated cardboard, newspaper, aluminum cans, plastics, oil, solvents, glass, steel, and brass. (page 6-4, paragraph 6-2f)

5. Good management practices are:

- Using the Army's HSMS.
- Conducting good housekeeping.
- Using SOPs.
- Designating an ECO.
- Ensuring that all unit personnel complete environmental-awareness training.
- Labeling containers.
  (page 6-5, paragraph 6-4a (1-6))

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APPENDIX A

LIST OF COMMON ACRONYMS

AAR	after-action report
ACCP	Army Correspondence Course Program
AIPD	Army Institute for Professional Development
AMEDD	Army Medical Department
AO	area of operation
APO	Army Post Office
AR	Army regulation
ATTN	attention
AUTOVON	automatic voice network
AV	audio-visual
AWR	answer weight reference
CAA	Clean Air Act
CCIR	commander's critical information requirement
CFR	code of federal regulation
COA	course of action
CONPLAN	contingency plan
CWA	Clean Water Act
DA	Department of the Army
DINFOS	Defense Information School
DLA	Defense Logistics Agency
DOD	Department of Defense
DOT	Department of Transportation
DSN	Defense Switched Network
EBS	environmental-baseline survey

ECAS environmental compliance assessment system

ECO environmental compliance officer

ECR environmental conditions report

EIS environmental impact statement

ELOW environmental laws of war

EN engineer

EPA Environmental Protection Agency

ESA Endangered Species Act

FFCA Federal Facilities Compliance Act

FM field manual

FRAGO fragmentary order

HAZCOM hazardous communication

HAZMIN hazardous waste minimization

HM hazardous material

HN host nation

HQ headquarters

HSMS Hazardous Substance Management System

HW hazardous waste

IPB Intelligence Preparation of the Battlefield

IPD Institute for Professional Development

JAG Judge Advocate General

Jan January

JFK John Fitzgerald Kennedy

JTF joint task force

M moderate

MACOM major Army command

MDMP military decision-making process

METL mission-essential task list

METTC-TC mission, enemy, terrain, troops, time available, and civilian considerations

MI middle initial

MO Missouri

MSDS material safety data sheet

NBC nuclear, biological, and chemical

NCA Noise Control Act

NEPA National Environmental Policy Act

NG National Guard

NHPA National Historic Preservation Act

OEBGD overseas environmental baseline guidance document

NO number

OCONUS outside continental United States

OPLAN operation plan

OPORD operation order

OPSEC operations security

OSHA occupational safety and health agency

PARA paragraph

PLL prescribed load list

PMCS preventive maintenance checks and services

POC point of contact

POL petroleum, oils, and lubricants

POV privately owned vehicle

RC reserve component

RCOAC Reserve Component Officer's Advanced Course

RCRA	Resource Conservation and Recovery Act
REG	regulation
ROE	rules of engagement
RS	response sheet
RYE	retirement year ending
S2	intelligence officer (US Army) (S2)
S3	operations and training officer (US Army) (S3)
SGT	sergeant
SOFA	Status of Forces Agreement
SOP	standing operating procedure
SSN	social security number
TC	training circular
TM	technical manual
TMC	training management cycle
TRADOC	United States Army Training and Doctrine Command
TSP	training support package
TVT	television tape
UCMJ	Uniform Code of Military Justice
US	United States
USC	United States Code
VA	Virginia
WO	warning order
XO	executive officer